S. Waldburg

Terms—Three Dollars per annum, payable in advance.

THE

# SOUTHERN AGRICULTURIST,

# HORTICULTURIST,

AND

# REGISTER OF RURAL AFFAIRS,

ADAPTED TO THE

SOUTHERN SECTION OF THE UNITED STATES.


NEW SERIES.—VOLUME V.—NUMBER 8,

AUGUST, 1845.

PUBLISHED BY A. E. MILLER;

No. 4 Broad-Street.

CHARLESTON:

PRINTED BY MILLER & BROWNE,

Old Stand, No. 4 Broad-street.

1845.


☞ Weight 2 ounces—Postage, 3½ cents.

TENNESSEE STATE LIBRARY

# CONTENTS.


| | PAGE |
|---|---|
| Agricultural Chemistry, by Prof. Johnson | 281 |
| Remarks on East-Florida, by James A. Mims | 288 |
| European Agriculture and Rural Economy, from personal observation, by Henry Colman | 293 |
| On the proper Treatment and Management of Meadow Lands, by Jesse Ryder | 295 |
| Sheep and Sheep Walks in the South, by G. D. Shortridge | 302 |
| What should Parents do with their Boys? | 304 |
| The Silk on Indian Corn, by Theodore Thinker | 305 |
| Top-dressing for grain Crops | 306 |
| A new Process of Tanning | 307 |
| On the Rearing of Neat Cattle | 308 |
| Fencing—No. II, by Coke | 311 |
| Manufacture of Manure | 313 |
| Food for the Hard-working Season | 314 |
| Castor Oil, Manufactured in Georgia, by A Means | 315 |
| Livingston's Improved Cotton Cleaner | 316 |
| Plank Floors injurious to Horses, by J. Maddock | 318 |
| Instinct | 320 |
| Peas | 320 |
| Budding the Peach | 320 |


**The Subscribers to the Southern Agriculturist are reminded, that the Price of the Journal was reduced to $3, to all those who paid in advance;—those who are still in arrears for this and former years are respectfully solicited to make their payments.**


**Terms of the Southern Agriculturist.**

Three Dollars, payable in advance;—for two copies $5; Societies and Clubs can be supplied with ten copies for $20, payable in advance.

# The Southern Agriculturist.

(NEW SERIES.)

**Vol. V. FOR AUGUST, 1845. No. 8.**

## AGRICULTURAL CHEMISTRY.

The following lecture recently delivered by Professor Johnson before a Convention of School Teachers in Scotland, we copy from the *British American Cultivator.* The aim of the learned professor was to show the necessity which exists for a knowledge of Chemistry in its applications to the purposes of agriculture, and thus to cause it to be taught in schools.

In this lecture, Professor Johnson treats, 1. of the *formation of the earth*—2. of the *constituent elements of plants*—3. of *soils*—4. of *animal substances*, and the *constitution of the living animal, the nature and offices of the food it consumes*—and shows the relative proportions of organic and inorganic matters and salts of which the soil, as well as vegetables and animals consist, the sources whence they derive their several supplies, and how essential it is, that the culturist and stock feeder should be possessed of a knowledge of Chemistry, in order that they may go to work advisedly in their respective callings, and thereby be enabled to attain their objects by the most economical processes.

As it would be arrogant in us to commend subjects so intimately connected with the business of life, when treated by a master spirit like professor Johnson, we will only say that every one should read the subjoined. ED. AMERICAN FARMER.

"Gentlemen, there was a time when this hill upon which we now stand was nothing but a naked rock of lava. That old lava gradually decayed, as modern lavas do, and crumbled down and formed loose matter on the surface, in which seeds of plants grew, died, and left their remains. Thus by degrees the soil accumulated to such as you now see on the surface of this rock on which plants now grow. Such is the history of nearly all the soils on the surface of the globe. Suppose you take a portion of any one soil, and put it upon the end of a piece of metal, such as I am doing just now, and inany way expose it to the action of the fire, you will see that part of the soil will grow blacker at the edges; by and by that blackness will disappear, and the soil will assume a color more or less dark, according to the nature of the substances of that which remains consists. If you take this portion of the soil before it is heated and weigh it, you will find that after it is exposed to the fire it is not so

heavy as before. That portion of the soil which has burned away consists of the remains of those vegetables of which I have spoken; of those animals who have died and been deposited in the soil; and of the manures which have been applied by the farmer. Thus vegetable matter forms what is called the organic, and the other portion of the soil the inorganic matter. The quantity of organic matter varies very much—in some soils it exists to the extent of 2 per cent. and in petty soils, sometimes as high as 70 per cent. If you take a piece of vegetable matter, and burn it, such as this wood, you will find here, also, that a large portion will not burn away, but remains, forming wood-ash. It is the same, then, with regard to the plant as to the soil—a part burns away, and a part remains. If you look at the tables, you will see that different plants have different proportions of inorganic matter,—thus, meadow hay leaves nine or ten per cent. of incombustible matter. Again, as to the animal substances,—take a piece of muscle, dry, and burn it, and you shall find that the greater part of it will burn away, which is the organic matter, the remainder being, as in the soil and in the plant, the inorganic and incombustible matter. Now, one hundred pounds of fresh muscle contains phosphate of lime and other saline substances to the extent of one per cent. of incombustible matter. Thus, the three different substances, soil, vegetable, and animal matter, consist of organic and inorganic matter; but there is this difference, that in the soil there is a larger portion of inorganic matter than in plants and animals,—in the latter, the greater portion burns away. I shall call your attention now to the inorganic portion of the soil. By looking at the table, you will observe that the inorganic matter consists of different substances, such as silica, which forms a very large proportion of flint; alumina, a substance which forms a large proportion of pipe-clay; oxide of iron, which is the rust of iron; potash, of which the potash you get from the shops may serve to give you an idea; chlorine, which is a kind of air; and then there is manganese, phosphoric acid, and carbonic acid. These substances are found in all soils, but not in equal proportions. You will see in the table before you the details of the constitution of a soil which would yield good crops for perhaps a hundred years. Were you to possess such a rich soil as that,—and such soils are to be got in the virgin land at the Cape of Good Hope, on the banks of the Ganges, and the Mississippi,—you would always find that it would contain a notable quantity of all these different substances of a soil capable of yielding good crops, but which would require to be regularly manured. You will observe that opposite three of the substances the word "trace" is put, which means, that though the substance was not absent altogether, yet it existed in so small a quantity that it could not be weighed. In the rich virgin soil stated first, you observe that there is of lime fifty-nine per cent., while in the second column there is only nineteen. Of phosphoric acid there is four in the one, and two in the other. In the third column of the table is the constitution of a soil so barren, that though ma-

nured, it could not produce a good crop. You see that their is a great many gaps in the list; in short, there is only five substances which exist in anything like quantity. So much for the substances which exist in all good soils; and you may be sure that if any soil does not produce a good crop, some one or other of these substances are wanting. The question arises,—how do soils come to have such different compositions as these? I stated to you how the crumbling down of rocks formed the soil along with the accumulation of organic matter in it; and if I had time, I would have directed you to a geological map, and shown that in every country the rock on which the soil rests is different; and if it be true that the crumbling down of rocks forms the soil, you learn at once how soils must differ very much in their composition. In felspar soils, of which rocks principally consist, you will observe only silica, alumina, and a few others. A soil formed from this must therefore contain a large quantity of these substances which are on all soils, while it would be deficient in many others. As soils differ in this, we are led to this practical question,—how can we make this soil to be like that soil, or how can a bad soil be made equal to a good one? The answer is simply, that you must supply those substances which are wanting in the soil—you must supply as much potash or lime as are wanting in the third or poor soil—and as is wanting in the second, to make up all the constituent elements which exist in the first or rich virgin soil, and which are necessary to enable the soil to produce a good and profitable crop. This shows you the benefit of an analysis of the soil, by which a farmer is enabled to decide what the soil requires, and proceed accordingly. I shall next speak of vegetable substances; and first, as to the inorganic part of them. If you take the ash which remains behind, when a plant has been exposed to the fire, and analyze it in the same way as with the soil, you will come to this result, that the inorganic part of the plants contains precisely the same substances as the inorganic portion of the soil. In the table on my right hand, you see the composition of a 1000 lbs. of hay.

The different kinds of hay have different quantities of the same substance, which substance is the same as in the soil. In reference to the ash of vegetables, 100 lbs. of wood leave behind not more than a half pound of ash. Perhaps you may be inclined to ask why, seeing that out of 100 lbs. one half pound only is ash, can that half pound be necessary for the existence of the plant, or is it rather accidental, and in no respect making any difference to the plant? No such thing, gentlemen. That half pound of ash is just as much an essential part of the plant, as the 99½ lbs. which burned away. The same is the case with wheat, which leaves 2 lbs. of ash. I state these facts, in order to bring you along with me in my exposition of the principles of the science—that you may see how I come to the conclusion, and which must be true, that the plant could not live,—that it could not fulfil the purposes of nature, unless it contained this small quantity of inorganic matter. If you look to the

table on the ash of hay, you will find there is an analogy between it and the soil. Red clover contains in one thousand pounds, thirty-one pounds of potash; rye grass as little as nine pounds. Of phosphoric acid, rye grass contains one-third of a pound, red clover less than 7 lbs., white contains five, and lucerne 13 lbs. We learn, then, that these substances are present in different proportions in the ash of different kinds of hay, and from that we draw several important practical deductions. Let us inquire whence do the plants derive the organic and inorganic parts of which they consist. They derive the organic partly from the air; the inorganic solely from the soil. In the air float certain proportions of all those substances which enter into the organic part of the plant. Now, the different kinds of plants in the soil will materially affect its constitution, and have a remarkable influence upon that constitution. Suppose I grow lucerne upon the very fertile soil detailed in the table, as the lucerne takes out a large quantity of lime and of phosphoric acid, you will see that the crop would rob the soil of a large proportion of lime and of phosphoric acid, and that therefore it would not grow the same crop with that luxuriance that characterised it at first, because it could not supply with the same ease and abundance those peculiar substances upon which lucerne lives more than any other. Take the ash of the different kinds of grain, and you will find that each in its own way affects the soil. Wheat, oats, and rye, require a large quantity of phosphoric acid, and so if you grow wheat a long time in the same soil, it will draw out this phosphoric acid among other things, and thereby reduce its quantity. This is what is meant by exhausting the soil. If rye grass is the plant used, it will exhaust the soil generally, because it does not take away a great portion of any one of the substances. In the same way, different crops make the soil poor; but if I take the same crop, say fifteen or twenty times,—a practice which, as is well known to the most of you, existed not many years ago, it would by that time produce no crop at all. The land then may be exhausted in two ways,—generally of all the substances, and especially, of particular substances; and and from this circumstance we are enabled again to make two or three practical deductions. In the first place, insomuch as the soil contains a limited quantity of these substances, and inasmuch as different crops carry off different portions, you at once see why it is judicious to have a rotation of crops,—that the longer the time is which elapses before you take a similar crop, the longer will the soil last and continue productive. A soil may produce one crop, when it cannot produce another. Let us inquire next why land is manured. The composition of the soil would tell you in the first instance, for it is obvious that manure is applied to restore those things which are wholly or comparatively wanting. Chemistry tells practical men how to renew their exhausted soil. Suppose that fifteen crops of oats have been taken off a piece of land, it will lose a large quantity of lime, phosphoric acid, and potash, and in order to restore it you must supply the soil with these ingredients

of which it has been robbed. Manure being composed of the remains of vegetables taken off the land, and containing all these things of which the plant consists the farmer, generally speaking, is enabled by its application to retain the fertility of the soil. But then, observe you, he adds all these things which are required for a fertile soil, which may be a great deal too much, and may not supply an adequate abundance of that last particular substance which the land actually requires, and thus a great expense is entailed which he may not be able to undertake, and thus the land fall short of that richness which he wishes, and which at least, at a less expense, he might be able by other means, under the guidance of chemical knowledge, to provide for his land. If the farmer knows chemistry, he will, at far less cost, and far more effectually, secure good crops. I come next to the organic part of the plant. You observe, when I take this flour dough, and wash it in water, it diminishes in bulk, and the water becomes milky. The portion that remains, for it will not all wash away, is a sticky substance, and this is called gluten. If the water is allowed to stand a short time, the white will fall to the bottom and form starch. The flour is thus easily separated into two parts, the starch and gluten. If lint or hemp seed is put into a press and squeezed, a large quantity of oil will come out, but not the whole that the plants contains, and this is the case with all seeds, more or less, though the fatty matter may not be so abundant perhaps as to produce oil by pressure merely. Wheat contains gluten to the extent of from ten to thirteen per cent.; meadow hay forty per cent. of starch. Of fat, wheat contains from two to four per cent.; straw, sometimes three per cent.; oats, six per cent.; Indian corn, nine per cent., and meadow hay, from two to five per cent. Thus the organic part of vegetable matter contains gluten, starch and fat. I shall now make a few observations on the composition of the animal. Of what does the ash of animals consist? The body you know is composed of various parts,—of muscles, fat, and bone, and other elements which I need not detail. Let us examine the composition of the muscle and we shall find that it contains two and a half per cent. of phosphate of lime, and a third per cent. of other saline matters. In bones you do not have all the substances which exist in wheat, but you have some of them, such as lime, magnesia, &c. In ten gallons of milk, there is three-fourths of a pound of saline matter; so that if you take the composition of the muscle of the bone, and of the milk together, you will find that animals contain the different substances which are to be found in the soil. Thus it is we learn the intimate connection between the composition of the inorganic matter of the plant, of the animal, and of the soil. But where does the animal get this inorganic matter? They obtain it from the plants. In bone, six-tenths of the whole consists of phosphate lime and magnesia. Now an animal could not support itself or walk about without some bone of firm substance to uphold it. It feeds upon herbage, which it must have, in order to obtain these different substances of which it is made up. But if the plant had

no soda or magnesia, the bone could not be built up no more than the walls of this house could be erected without lime, stone, and other substances. It is necessary then, that the plant should have all these substances, in order to supply them to the animal creation —a purpose which it could not fulfil unless it contained all that is necessary to build up their bodies. And where does the plant get these substances? It gets them from the soil; nor can a plant live without them. And here we have a beautiful example of the provisions of nature, for a plant cannot grow, it cannot appear at all, unless it can acquire those elements, and that, too, just because, if it did live, it might indeed deck the surface of the earth, but it would not be able to feed animals, which is its great purpose in the creation. (Loud applause.) Thus a beautiful thread of philosophy pervades and connects all those different substances. Of what does the organic matter consist in animals? It consists of two parts, the muscle and the fat, and you will remember that we have three things in the plant, fat, gluten, and starch. If I take a piece of muscle and wash it, I shall wash out the blood and make it like the color of fat, and upon tearing it out it will be seen to be fibrous. When the fibre is analysed, it is found to be the same thing as the gluten in wheat. If you take the fat of animals, and compare it with the fat in plants, you will find a remarkable analogy to each other, though they are not absolutely identical, and I believe they could very easily be converted into each other. The organic matter of vegetables contains the same substances of the muscle of animals. Vegetables contain a large proportion of that which will very readily form the fat of animals, the only difference being that the animal matter contains no starch. Let us now see what is the purpose for which the animal eats its food. Unquestionably for the support of the different parts of which it consists. You see again what a beautiful connexion exists between the organic part of the plant and that of the animal. The animal eats gluten in order to form the fibre. When I eat rolls to breakfast, I eat a quantity of gluten and starch, and that gluten saves the digestive organs the trouble of manufacturing gluten for the frame. Out of those rude elements which constitute the soil, and which float in the air, it is the duty of the plant to prepare those substances,—those bricks, as it were, to be carried away by the builder to fill up different gaps which are continually made in the body. There is a great difference between starch and gluten. That substance called nitrogen exists in the latter, but not in the former; in the fibre, and not in the fat of animals. Thus nitrogen is obtained wholly from the soil, therefore it is necessary it should be in the soil. In beans gluten exists to the extent of twenty-eight per cent. If, therefore, you or I eat beans, we eat that which is capable of building up a much larger proportion of muscle in the body. Again, if the soil contains a large proportion of gluten, beans will grow when no other plant would. Some animals lay on the fat very abundantly, and some, like myself, lay it on very sparingly. (Laughter.) If you have an animal inclined to lay on fat, feed him with Indian

corn. There is an important difference between the composition of the vegetables and that of the animal; in the former there is gluten, starch, and fat only. The lungs are a sort of carbonic acid manufactures. The starch we throw off to the air the plants suck in; and thus it is the leaves are continually in motion, beating against the air, forming a thousand little mouths which perpetually suck in the carbonic acid. Thus it would not be enough to eat merely of fibre and fat, but we require to eat the vegetable substances which contain starch, gluten, and fat, because the general purpose of nature is to save the stomach the trouble of manufacturing these substances for itself. The lungs might suck in the same as plants do, but such is not the order of nature, and it falls to the plant to supply the deficiency. The stomach can build more easily from carbonic acid than it could from muscle. In feeding your stock, the farmer must give as much as will not only supply an increase of muscle and bone. You all know that every part of our body is continually undergoing a change, and that a certain quantity of gluten must be eaten every day to supply it, and it is the same with young animals; and therefore they require an extra supply of the elements or muscle and bone, in order that they may increase in size. You may, by attending to the different qualities of the kind of food, make your animal either very fleshy, very bony, or very fat. Animals reject in dung and other excrements a great many substances, and as the plants contain substances which are soluble with water, it is of great consequence to take care of the liquid excrescences, and to mix it with the solid, so that the whole the animal ate may be preserved, which, being taken to the soil, it is provided with the same substances almost forever. If you allow the liquid to run into the rivers, you bare the land of what the plant gets from the soil, and which the animal gets from the plant. When the animal dies, all those things which it got is returned to the soil, and thus the same revolution goes on from the soil to the plant, and from the plant to the animals. (Applause.) These are some of the points, gentlemen, by relating which I wish to interest you, which demonstrate the overruling presence of One mind, directing practical operations to the same end. If there was not the same spirit and intellect pervading in the nature of the soil, the plants, and the animals, there would be some confusion; but as they do not exist, there is manifested the presence of One mind and of one principle, directing the whole cycle of animal and vegetable life, as there is to be seen in all the cycles and motions of the planetary bodies. (Loud applause.) In wishing to teach those under you the elementary principle of agricultural chemistry, I don't wish you to leave out of view the beautiful and powerful evidence which it affords to the existence of a Deity who is present at all times, and regulates in his infinite wisdom all our affairs and intercourse. I therefore concur entirely in the remarks of Mr. Pyper, that moral training is above all things necessary for the young. Moral training comes first, intellectual next, and practical last of all; but yet all are here

combined, for by this practical knowledge you can give the young mind a new view of natural theology. It is not merely chemistry or physiology, but this science seems to be one of the most beautiful pictures of natural theology.—(Applause.) I might tell you there is a great deal of poetry in the sketch I have presented to you. The whole planetary system in dead masses float in space, and the dead earth form the subject which geologists contemplate; but on the surface of this dead earth you have a soil, and an animal life, subject to changes which must interest and concern every inquirer. Suppose the soil contained no seed,—that no vegetables grew, and no animals existed, still no doubt the other parts of the creation would go on; and this subject of ours is just one idea, an episode, as it were in connection with the planetary system. And this little episode in the mighty poem of nature presents to us the Divine bounty, goodness, wisdom, forethought, benevolence, and the exalted intelligence of Divine mind. * *

---

Communicated for the Southern Agriculturist.

## REMARKS ON EAST-FLORIDA.

East-Florida is divided from Middle and West-Florida by the Suwannee river, and is mostly a level country, interspersed with gently rising hills, plains, prairies, lakes and rivers. The soil in general is sandy, though more productive, in consequence of the silicious matters which it contains, than the appearance would indicate, particularly in the middle and southern regions, which is very productive, there being large hammocks of exceedingly fertile land. The largest of these are confined to the interior, in the vicinity of the great Alachua prairie, Sanfulasco, Hogtown, Priest Levey, Tuscawilla, and the hammock bordering on the great Alachua prairie, are all of them of considerable extent, containing from fifteen hundred to ten thousand acres each, and constituting the most fertile section of East-Florida. Immediately from these hammocks, commences another group, though of less magnitude, varying in extent, and containing from fifty to one thousand acres each, and confined mostly to Marion county. Immediately south of this, is Benton county, with its great Nutcaligah, which is an extensive hammock, situated near the centre of the county. It is said to be the largest hammock (and of exceedingly fertile land) to be found in the East. These hammocks, together with extensive plains of good pine-land, promiscuously located throughout the country, are well adapted to

the production of the sugar cane, Cuba tobacco, long staple cotton, indigo, millet, sweet potatoes, and melons of the different kinds; also a great many of the tropical fruits, among them may be enumerated the orange and lemon, which is found in abundance, growing in the forest as far north as the city of St. Augustine, and the great Alachua prairie. Corn can be raised in the northern and middle regions, in quantity sufficient for plantation consumption: but south of this, its cultivation is attended with more uncertainty. On account of its tropical situation, and the variableness of the seasons, comparatively with other parts of the south, very little rain falls during the year, with the exception of the months of June, July, August and September, during which time it falls profusely, commencing about the 10th or 15th of the former month, and is called the setting in of the rains; after which, a sudden diminution takes place. The climate, in consequence of the southern latitude of the country, is necessarily warm; the cold of the winter is of short duration, generally not exceeding six weeks of moderately cold weather, which seldom sets in before Christmas. The general character of the climate, as already intimated, is that of heat. The heat is, however, tempered by the peculiar locality and surface of the country, which admits of renewals of breezes, from both the Atlantic and Gulf of Mexico, which moves over a genial surface to a common parallel centre, at least as far north as the 30th degree, imparting health and vigor to all that inhale them. The nights are in consequence of the renewals of the breezes from the ocean, almost invariably pleasant. This in general is the ordinary character of the climate, though some years the cold is more severely felt, during the short time that it prevails, which is never more than nine weeks. Here then is a country where almost perpetual summer reigns;—where the fields and the forest are always green, and where nothing is reserved for a hungry lingering winter.

The health of the country, in general, is good, and one distinctive characteristic of that is, its exemption from stagnant pools. The rivers, and other streams of less magnitude, are confined to deep excavations, which precludes the formation of swamps and putrid fens to any considerable extent; this is one cause of the purity, elasticity and equality of the atmosphere. I am inclined to believe, there is no part of the United States better adapted for the resi-

dence of invalids, requiring a warm and genial climate than East-Florida, and particularly the interior, together with various places on the coast, among which may be mentioned St. Augustine, Key-West, and Tampa Bay, which are remarkably healthy the whole year. In winter as already mentioned, the climate is mild and pleasant, most of the southern part being exempt from frost, while in the fall season it is free from the malarious exhalations, which are indigenous to a warm climate. The reader may satisfy himself of this by studying the geography of the country. In consequence of the mildness of the climate, the woods and prairies afford an abundance of pasturage for the cattle which may be seen roaming on the prairies in large numbers. These prairies in the spring and summer appear like seas of verdure, and the grass is often overtopped by fragrant flowers, without a single tree in sight to impede the view, except the forest which bounds them as the beach bounds the ocean. Occasionally a grove will appear, like an island encircled by the waves, and give diversity to the broad tract of verdure. With the exception of these groves, they are as level as the waveless lake. On the borders of these prairies, the land is almost invariably exceedingly fertile, and covered with the live oak, and other timber to profusion; but at a short distance the forest disappears with the exception of the pine. Many barren hills are scattered over the face of the country, and presents to the view, a melancholy aspect, frequented only by the huntsman and the cow-boy. The country is infested with tigers, bears, and wolves; the latter are often heard howling around the new settlement of the farmer, in search of something to appease their insatiated appetite. Herds of deer may be seen reposing on the hills, or starting from their slumbers, as "the huntsman with his horn," followed by hounds, wends his way through the woods.

The St. John's is a beautiful and bold river, flowing through the heart of the country, and varying from one to three miles in width; its banks are decorated with several villages. Jacksonville, from its beautiful and imposing location, and the number of fine buildings it contains, presents a fine aspect.

Black Creek village and Whiteville, situated on Black creek, a tributary stream of the St. John's, are places of considerable trade, and was at one time, during the Seminole war, the principal place of rendezvous.

Besides the beautiful and bold St. John's, there are other rivers of less magnitude, though beautiful in appearance. The Ocklawaha, a branch of the St. John's, has on its banks as fertile land as can be found in East-Florida. The Suwannee is also a fine river, and navigable for steamboats as high up as Columbus, a new and flourishing village, located on its banks.

The country abounds in many natural curiosities, the Santa Fe river, a tributary stream of the Suwannee, about twenty-five miles above its junction with that river, disappears, and proceeds by a subterraneous communication for some three miles, and then rises a gain into view, and proceeds without any other unnatural change to its junction. With this may be enumerated the Wakasasse river, Homosassy, Chrystall, and other rivers, which burst by a bound from the earth, with sufficient width and depth for the ascension of steamboats to their very sources. There are also a great number of caverns, many of which have been explored. Lakes George, Munroe, Jessup, Orange and several others, are large sheets of clear water, extending on a base of from five to fifteen square miles, and presents a beautiful and sublime appearance; these lakes are profusely filled with delicious fish, and bounded by high and fertile hammocks, which are beautifully diversified with groves of the orange—large quantities of the fruit are gathered by the neighboring inhabitants and transported in wagons and other carriages, to various parts of the country; the lemon also, is indigenous to the East, and may be seen growing in various parts of the country, as prolific and as beautiful in appearance as the orange.

The inhabitants of East Florida have not been long enough together to acquire a fixed and uniform character; the great mass of the people are engaged in settling themselves, and farming is as yet carried to a small extent; but they exhibit much industry and frugality in their new homes. Education has been much neglected, and till within the last year, there were scarcely any schools; but since the expulsion of the Indians, and the rage of emigration has become so great, attention is beginning to be paid to this subject; and the recent admission of Florida into the confederacy, will no doubt give a new impulse to every branch of her interest, and likewise a continuance of that emigration which has already began to enter her borders.

Since the admission, adventurous and enterprising mechanics and farmers, from other States, have located in the country, and many others have visited it for the purpose of making selections, with the intention of removing, and with but few exceptions, they exhibit considerable satisfaction, and seem to exult at having visited the country. The natural resources of the country when contrasted with other regions of the South, are very great, as nearly the whole of it, is yet in its original state, and exhibits general fertility; and is without doubt, better adapted to the production of the long staple cotton, and the Cuba tobacco, than any other section of the United States; also might be enumerated the sugar cane, which was cultivated to some considerable extent before the commencement of the war, in the interior, paying largely to the producer.

Since the termination of the war, however, most of the planters have resumed its cultivation, and no doubt will extend it largely, and to that section known under the appellation of South-Florida, which seems to be peculiarly adapted to its production. The long staple cotton has been cultivated, and yields largely, and of course profitably. Last year being the first since the termination of hostilities with the Indians, the farmers were not in a situation to engage sufficiently in the planting, to make a fair trial. But notwithstanding the small quantity which was planted, the farmers realised from 600 to 1,000 lbs. per acre; and the corn and sugar cane remunerating in a similar ratio. And when it is considered that the principal part of the planting was conducted on Indian old fields, which had been brushed down only the year before, and but indifferently prepared before planting, and confined mostly to the interior, in the vicinity of the great Alachua prairie, it cannot be considered, otherwise than a great yield. This year, however, presents a different aspect, as the crops are much better than they were last year at this season, when the extension shall be made general, we cannot expect otherwise, than increased advantages.

*One year's residence in East-Florida, by*

JAMES A. MIMS.

Wacahoota, E. F., June 28, 1845.

---

The most effectual preventive against the ravages of the cutworm, is salt. A small portion of it mixed with the soil, or sprinkled around the plant, will disgust them so that they will not be apt to molest it. [*Western Cultivator.*

## EUROPEAN AGRICULTURE AND RURAL ECONOMY FROM PERSONAL OBSERVATION. BY HENRY COLMAN.

The subjects of his book are of so general a nature, that with the exception of the last, (guano.) we shall refer the reader to the book itself. Information on the use and application of guano being sought after by those who are trying this excellent fertilizer, we make the following extracts relative thereto:—

### ON GUANO.

"The secret of the extraordinary success of this manure is not yet solved, however nearly a solution may have been approximated. This is evident from the fact, that after the most exact and minute analysis of this manure, conducted with all the skill and science which can be brought to bear upon it, no one has been able to form an artificial guano with any degree of its efficacy. Chemistry determines with wonderful accuracy its inorganic properties; but fifty per cent. of it is organic matter, and this being dissipated or lost in the process of analysis, nothing is known of it but its absolute quantity. Every common farmer knows that horse manure, cow manure, hog manure, sheep manure, are all specifically different, and their effects and uses are different; and I believe this depends not more upon a difference in their inorganic elements, than upon some specific effects of their organic elements; and though horses, and cows, and sheep, should be fed upon precisely the same food, their excrementitious matter would be specifically different, and the effects upon vegetation different. I pretend not to say in what this difference consists; this, chemistry has not yet reached, though I can but hope the goal will presently be attained. I am not therefore entirely satisfied with any account which chemistry has given of guano, so far as its operation is concerned. It has done much, and is clearly able to determine the different specific values of different samples. This is of great importance to the farmer, and not less so to the honest dealer. But the specific qualities of this extraordinary manure, as proved by its effects, are, I presume to believe, with all possible respect for science, yet to be discovered. I know the consequence of questioning the infallibility of the pope, but I am no Catholic.

One, indeed, may well speak of its effects as extraordinary, from what I myself have seen. In Scotland, last autumn, two shrubs were shown to me, sweet-briers, growing in front of a two-story house, and trained upon its sides; one at one, the other at the other end. The soil in which they grew, the aspect, and other circumstances, were the same. One, in the season, had grown six or seven feet; the other, nearly thirty feet! It had actually climbed to the roof of the house, and turned and hung down, reaching half the distance down from the roof to the ground. I judged this could not have been less than thirty feet. This had been repeatedly watered with liquid guano, by the hands of its fair cultivator; for this was another experiment by a lady. The other had received no special care or manuring. This charming woman, surrounded by her lovely children, was equally engaged in teaching the young

idea as the sweet-brier how to shoot, and they too showed the beautiful results of devoted and assiduous culture.

I have seen the extraordinary effects of the application of guano all over the country, and I have met with very few instances of disappointment. I have been favored with a great many reports of its application; but my readers will, I think, be better satisfied with general results, than with a long list of particular examples.

When I speak of its extraordinary effects, I yet do not consider them as so surprising as the effects of gypsum in many parts of the United States, whose operation, I venture to say, remains wholly unexplained. I do not, of course, mean to imply that one can be substituted for the other. The effects of half a bushel of finely-powdered gypsum, scattered over an acre of land, in some places, in increasing the crop of grass, and in respect to some other crops, is amazing; yet in all England, I have not been able to find a single well-attested example of its being applied with any benefit whatever. The application of guano has been made, in England and Scotland, to all kinds of plants, and in some instances with great success; indeed. with rarely a failure.

It has been used for turnips, barley, wheat, oats, grass, garden vegetables, onions, asparagus, potatoes, flowers, and trees. I have seen its application in all these cases, excepting asparagus and trees; but the testimony which certifies its success in these cases is unquesitonable. Comparisons made between guano and other manures, are not quite satisfactory in respect to quantities, because it is obviously very difficult to institute any instructive comparison between so many pounds of guano, and so many loads of manure; manure is so various in its nature, quality, bulk, &c.; but it will be quite easy to compare the two in respect to the ease or difficulty of their transportation, and of their application to the plant or soil. Comparisons, likewise, in respect to the cost of different applications, as made here, would be of little use in the United States, as prices of manure and of labor are totally different; and the one can afford no rule for the other. In this matter, the farmers of the United States must judge for themselves.

The quantity which it is deemed best to apply, varies from two hundred weight to four hundred weight, or five hundred weight. Frequent cases have occurred of the application of five hundred weight and eight hundred weight, to a statute acre, with great advantage. Cases are on record of twenty-nine and thirty hundred weight being applied to grass land with a great, but not, most certainly, a remunerating increase of crop. I met one farmer in Lincolnshire, who thought more than one hundred weight applied to turnips was unnecessary; but the almost universal testimony is in favor of three hundred weight. A bushel of sifted guano weighs from fifty-two to fifty-four pounds.

In regard to the mode of application, it is well settled that it should seldom be applied alone. To garden vegetables, or greenhouse plants, it may be applied in a state of solution in water. In field

cultivation, it may be applied, by being mixed with four or six times its quantity of dry earth or mould. In this way, it may be sown broadcast over the field, and then lightly harrowed or turned in; or it may be sown first in the same drill where the seed is to be dropped; great care must be taken, however, that it does not come in contact with the seed, or it will destroy its vegetative powers. It is desirable that it should be covered as soon as may be after being sown. The best farmers give a caution against mixing it with lime, or bones, or wood-ashes, as these substances, coming in contact with it, will drive off its ammonia.

Where a portion of barn manure has been applied in conjunction with guano, the mixture has been found much more efficacious than the manure when applied alone. In an application which I saw, guano gave seven tons of turnips increase to an acre over an artificial manure which had been much praised, and was applied at the same time.

A good mode of preparing it for application is to mix it with fine earth, on the headlands of the field where it is to be used, forming it, with the earth, into alternate layers, in the proportion of earth to the guano of three to one; and after it has remained two or three days, thoroughly incorporating them together by turning over the heap.

With potatoes, it should be placed in the drill or hole, but not in contact with the set or seed; and for Indian corn—a case in which I have had no experience—it would seem advisable to adopt a similar method."

An account of several experiments by various individuals is added, but they have all proved successful in establishing the value of guano. One thing we think with Mr. Colman, is correct, viz: that however valuable an *artificial* guano may be as a manure, it cannot compare with the substance itself; and as long as the genuine unadulterated article can be had at a reasonable rate, no one should purchase the artificial compounds got up by individuals whose sole object is the acquisition of gain.

The future numbers will, we trust, be of a more practical nature than those already issued, and possess more interest to the agriculturalist. As an exposition of the state of the science in Great Britain, the work is valuable to every well wisher of rural improvement. [*Hovey's Mag. Horticutture.*

---

## ON THE PROPER TREATMENT AND MANAGEMENT OF MEADOW LANDS. BY JESSE RYDER.

What I mean by meadow land, is that which, from the nature of the soil, is more natural to grass than grain, so much so, as to make it desirable to keep it all the time in grass. It also includes the light moist soil which is good for either grain or grass. As permanent meadow land, the same treatment applies to it all. And be it

understood, I have reference to upland merely. To such land as, when poor, or the grass becomes thin upon it, is covered with red moss, and frequently mouse-ear, being reduced to the production of bull's-eye, or white daisy, all of which are the effect, and not the cause of the absence of grass.

Those temporary meadows on dry lands, which comes of a rotation of crops, where the grass is renewed after tillage, and remains in but a short time, do not come within the purview of this article. The very dryness of the soil, which compels frequent ploughing, increases the profit of the farmer; his land is enriched by the easy and simple means of seed and plaster, in conjunction with the manure of the farm, and, as a general thing, such is the most profitable of all lands.

But a far different system should be adopted with land which is too heavy and wet for grain, without manure.

From the nature of things, it requires manuring highly to insure a crop of grain, and the fertility of the soil cannot be maintained in tillage husbandry, by the cultivation of clover, as is that of dry land.

Where the soil of a farm is all of that nature, there should be no more ploughed than can be manured sufficiently to give good assurance of every grain crop sought to be obtained therefrom. Consequently, that portion of the farm under tillage should be small in comparison with that of the same number of acres of dry land. But with the treatment which such land usually receives, the amount of manure made from the produce of the farm is too insignificant to maintain, much more to increase its fertility. The common practice is to plough it up when the grass runs down and take from it several meagre crops of grain, before it is again laid down to grass; then succeed two or three middling crops of grass, before it degenerates to the old standard, again inviting or compelling the owner to renew his impotent efforts to increase its fertility.

But such management is all wrong. The attempt to manage heavy land, the same as though it was dry, in order to renew the crop of grass upon it, necessarily involves frequent ploughing, with the application of little or no manure to the greater part of it, from the insufficiency of the supply; consequently, the land grows poorer and heavier by the operation. For soils which are naturally too stiff, but have been lightened by vegetable matter, speedily degenerate under tillage, and becomes less porous as the vegetable matter works out; leaving it compact, and heavy, and unfitting it for the growth of plants; so that it requires a very successful new seeding with grass, to again lighten it up and restore it to its former good estate. Such a system then, should be adopted with such land, as will not diminish the amount of vegetable matter upon the surface of the soil. If it is desirable to plough the land, let it be up but one season as a summer fallow, and sown early with winter grain, and seeded with timothy in the fall, and clover in the spring; that enables the young grass to feed up the old, so that by the time

the old roots are decomposed and appropriated to the use of the new crop, a more luxriant growth is obtained, and the amount of vegetable matter in the soil increased, or, in other words, its fertility, or power of production is increased, which must be attributed to the large share of nourishment which plants derive from the atmosphere (being, according to Liebig, nine-tenths of the whole,) that makes the old roots a basis for nine times their weight of vegetable matter to grow upon, or in the soil. This new estate can be maintained without manuring, as I shall show hereafter. Such, in my opinion, is the extent to which land not fitted for a succession of grain crops may be ploughed.

But a far better way than ploughing exists, in my opinion, to renew the grass upon old meadow lands. There are two ways in which it may be done without ploughing, one through the agency of red clover, the other by top-dressing with manure, of which the one most important to be understood, because the easiest, and cheapest, is that which is effected by clover.

Strange as it may appear to some, clover is to stiff clayey soils when kept constantly in grass, and rightly managed, the same source of fertility that it is to dry land in a judicious rotation of crops.

Although it generally succeeds but poorly on such land in a new seeding, after tillage, owing to the roots being drawn out by frost, it by no means follows that such soils are incapable of producing it. On an old meadow matted with other grass, there is but little freezing and thawing of the surface to draw out the roots of clover, and the multiplicity of other grass roots tend to bind them to the soil.

But it requires peculiar management of meadow land to preserve in it a succession of clover so as to maintain the fertility of the soil, and renew other grass upon it, so as to increase its burthen, like to a new seeding.

By observation, I have been enabled to discover the circumstances which govern the production of clover on old meadows, which might be called an inductive theory of its operation. To secure its benefits, one general principle is to be observed, which is, to always let the rowen clover go to seed, before cattle are turned on to pasture the after crop.

The operation is simply this: suppose an old meadow that is running down to blue grass. Timothy and other grasses are dwindling to a light crop, and there are plants of clover scattered over the land, which are permitted to spring up after mowing, and go to seed. The seed sheds abroad over the surface in the fall and winter; in the spring it comes up very early, and is protected from frosts by the old stubble and moss which is upon the land. The crop of other grass being light gives the young clover a chance to grow, which consequently brings the land round to clover, the old grass preserves the roots during the winter, the next year it is up betimes, and takes

possession of the ground by getting the start of other grass, provided the seeding was thick enough. If not, it seeds thicker the next fall, clover being on the increase, and thus it gets possession of the ground partially smothering other grass, and killing the moss. The land becomes completely renovated, but what becomes of the clover? The year it gets possession, there is naturally a great deal of seed grown in the fall, which scatters over the ground in great profusion; it comes up the next spring, but circumstances are now very different, there being a full growth of other grass, the young clover is nearly all smothered in turn. The old clover dies and the soil is further ameliorated by its roots, and timothy, red-top, and white clover take possession, in a rejuvenescent state, young clover is more or less killed until the timothy and red-top dwindle again; and thus by proper management is clover made the agent of the farmer in fertilizing the soil, and increasing his crops, without the aid of manuring, or ploughing, vegetable matter accumulates on the surface, the soil becoms more open and friable and previous to air, heat, and moisture, and this is all done for a soil that is naturally wet and heavy without manure. But these changes of grass are not periodical.

The shortest that can be made are once in three years a crop of clover, but they are generally irregular, owing to the vicissitudes of seasons, affecting the young clover for good or ill.

There are many who suppose it necessary to leave the second growth of grass undisturbed, to rot on the ground, in order to preserve the fertility and maintain the productiveness of old meadows in grass, where top-dressing with manure is not resorted to. But such management is not only unnecessary, but oftentimes extremely hurtful, and the injury is proportioned to the amount left untrodden and unfed. If the amount left standing, or laying loose upon the surface be considered, it, in the first place, makes a harbor for mice, which will, under cover of the old grass, intersect the surface of the land with paths innumerable, from which they cut all the grass that comes in their way, more especially the crowns of the clover plants of which they seem especially fond.

In the second place, the loose covering of old grass seems to operate to shade and smother the young grass in the spring, that the young mice may have left, more especially the young timothy, and the result is that a meagre crop of what is here called spear grass, or June grass, shoots up through the old grass as through a brush heap, in lieu of the good burthen of the year before.

1st. Always let the rowen clover go to seed,

2d. Always mow early, so that, if the season be dry, the clover may have a chance to get to seed. The hay will also weigh more and be of better quality.

3d. If the season be favorable and the second growth large, turn in upon it as soon as the clover seed begins to shed, in order that it may be sufficiently fed off and trampled down before winter, other-

wise mow it the second time after sufficient seed has been shed upon the ground.

4th. If the after-growth be light, so as if left upon the land, it will not endanger the next crop by shade and mice, do not pasture it at all.

Such treatment of meadow land is generous and good, and that generosity will be returned. It does not admit of turning cattle upon meadows as soon as they are mowed, to bite the grass down to the roots, killing some kinds and injuring others. Timothy grass, for instance, generally requires the balance of the season after mowing, in which to recruit, so as to put forth its best efforts the spring following.

The more kinds of grass there are growing on the same ground, the greater the weight produced, and the thicker the growth. Each kind is supposed to require some specific food, not appropriated by the others, therefore they can feed together without robbing each other, and therefore it is that old meadows can be made to produce much more weight of grass than those newly seeded.

White clover is an important grass on flourishing old meadows. It grows very thick at the bottom of the other grass, although in a good season it will grow to the height of from twelve to sixteen inches. I have seen it in low spots completely covered for weeks together. Therefore land which produces abundant crops of grass would require extensive draining for grain, and seeing that ploughing such land destroys its life it is far better to keep it in grass continually.

I now come to treat of top-dressing meadow land with manure to promote the growth of grass.

Where hay is much of an object of culture, and manure can be had, it possess the following advantages over the clover culture, in renewing the crop:

1st. The crop can be kept more uniform in amount by manuring while it is still fair, and before it runs out to blue grass, which generally precedes the change to clover—for, in the clover culture one or two middling crops must be expected in a round of from three to six years.

2d. If the hay is destined for market, clover is not as saleable as other grass, and it can be kept in a minority by pasturing the meadows close after mowing, and top-dressing with manure.

3d. Heavier crops can be obtained by top dressing than by any other system of management, the clover system seldom giving over two tons of hay to the acre, at one cutting—new seeding with timothy three tons—when top-dressing gives three tons and upwards. Three and a half tons to the acre, obtained by top-dressing, will stand up as well as two tons of timothy newly seeded, being so much thicker at the bottom, and growing so many more kinds of grass. I have obtained three and a half tons to the acre in a good season, by spreading ten two-horse wagon loads of fresh livery stable manure to the acre, in February, on a stubble principally timothy the year

before, when a portion of the meadow not dressed gave but two tons. I have spread fifteen loads of manure to the acre on poor, wet, heavy, meadow land, in the fall, where about half a ton of white daisy grew to the acre. The next year the crop was about one and a half tons of daisy and other grass, particularly red clover; the year following timothy began to get possession—crop about the same in weight. In the fall I put on about ten loads more to the acre, of swamp manure, that had laid one year in the hog pen; the result was full three and a half tons of hay to the acre of timothy, and some white daisy of equal height, and very tall. The next year there was a very heavy growth of timothy without daisy, which was now mastered and killed. Two things I have acertained by top-dressing, which may be useful for some farmers to know. One is, that it is the only way to exterminate from meadows daises and weeds, and be paid for doing it, instead of paying for having it done.

Bull's-eye or white daisy, does not grow on my meadows, after the yield comes to exceed a ton and a half to the acre, except the year following the application of the manure—the growth being promoted for one year as much as that of other grass.

Another thing useful to know, is, that it pays better to manure good land than poor, when in grass; the limit being where the effect is neutralized by the grass lodging early, and rotting at the bottom—at least such is my experience.

As concerning the time in the year when manure should or ought to be applied to grass grounds, it is, or must be varied by circumstances. But this much I will say, that it may be done as soon after mowing as is convenient, and not later than the first of March in this latitude.

If the land be naturally wet, so that in the spring months it is saturated with water, the manure should be applied as soon as possible after it is mowed. By so doing, the rain which falls in the dry part of the season soaks into the ground, and carries with it the strength of the manure, which is thus secured for the benefit of the land. If on such land it be put on in the winter, the spring rains float off a great part of its substance, and the effect is comparatively trifling.

I have seen as good effects from manuring in the summer, spots so wet that nothing but wild grass grew, as I have from manuring land that is esteemed dry enough; it causes red-top to grow in such places most luxuriantly.

Another case where the manure should be applied early, is where the land is so poor that the grass is weak and thin. In such cases it should be applied immediately after mowing, so that the grass may have time to thicken up in the fall, for the year following. The greatest effect from the manure will then be observed in the first crop of grass. If it be put on late, the greatest effect will not be observed until the second crop is obtained. Early spreading is generally the best on any meadow land. I prefer unfermented stable

manure, with the litter undecomposed, to the same manure in a rotten state; and hot, dry weather, in summer, forms no objections in me to applying it immediately. In the dryest weather, the grass will soon spring up through the manure, when it will not grow at all on the parts adjacent.

The manure should be spread very evenly over the ground; if it be long manure, it should be shaken fine off the fork. There are but few hired men who are willing to perform the work aright.

I have used earth from the road-side, swamp manure, swamp manure with leached ashes spread on it after it was applied to the land, and leached ashes alone for top-dressing, of which the swamp manure and ashes together produced the greatest effect, being fully equal to stable manure, and will no doubt be much more lasting. The rich earth from the road-side, on the second year, more than four times paid for its application. Ashes alone shows a decided good effect. The swamp manure alone has been on for two years without having effected much change—I suppose, because of its insoluble state, and the grass roots not having got hold of it—but I do not despair of its ultimate good effects. I think that, as a manure, it should alway be applied to the surface, that it may be dissolved by the gases that float in the atmosphere, aided by the roots of the grass when they have taken possession of it. I know that it is extremely favorable to the growth of timothy when it is once appropriated to its use, and that the crop is maintained for a long time. Rich earth, from the sides of the fences, where it has been washed or ploughed in, would be excellent for top-dressing; never mind if the bushes are killed by it. In top-dressing with stable manure, I make a point to sow plaster upon it as soon as I can after it is applied, and the more manure I put, the more plaster I sow, more being required to arrest ammonia in its escape.

As I do not think that moving without manuring necessarily impoverishes the land, and as I think that my meadows are rich enough, I shall hereafter depend on clover, and top-dressing with any substance that will lighten the surface soil, to kill the moss and renew the grass.

As an instance of the effect of clover, I will mention that I know a meadow which twenty years ago was a barren waste—the soil heavy, and the water, in the spring months, escaped from it by flowing over its surface, no grass grew upon it. It was summer fallowed and sowed with rye, timothy and clover seed; a little manure was put on a part of it. It has never been manured since, except by plaster; the hay from it has always been sold, and averages about two tons to the acre; it is in clover abont one quarter of the time, and is managed as I have directed in this article; the soil is now very light, and the water soaks away freely.

When will farmers stop murdering their meadows, and keep more stock? which they may do under a better system. Better soil the cattle with green corn, sown for that purpose, or clover, than to pasture so close. [*Am. Quarterly Journal.*

## SHEEP AND SHEEP WALKS IN THE SOUTH.

In the present unparallelled depression of the great cotton-growing interest, men of every class and of every avocation are anxiously engaged in devising a remedy commensurate with the evil. And while many ingenious theories have been advanced, from quarters entitled to the highest consideration, tending to enlighten the planters of the South upon the best mode of disenthralment; the propriety of converting the mountain regions and boundless ranges which strike the eye of the traveller on every side, from the Alleghanies to the Gulf of Mexico, into pasturage and walks for sheep, has not been sufficiently urged. At almost every point, there are extensive tracts clothed nine months of the year with the richest verdure, upon which millions of sheep might subsist with comparatively little trouble and expense. It is the opinion of judicious men, that where seventy head of cattle may be raised to advantage, seven hundred sheep, instead, may do equally well. With that number, if each fleece of the good breeds is worth one dollar and twenty cents, as has been estimated, a neat little income might be realized, where nothing is made under the present management of farms.

Mr. Skinner, who has long enjoyed the reputation of being among the first of the practical agriculturists, not only of this country, but of the age, somewhere recently remarks, that the finest sheep-walks in the Union are to be found in the mountain wastes of North-Carolina and Georgia; and he might, with equal propriety, have added the similar regions of Alabama and Mississippi. No portion of the Northern and Eastern States, nor the prairies of the famed West, to which thousands of sheep are now being driven, can compare in natural excellence with these ranges. In high latitudes, experience has demonstrated, that both the fleece and consitution of the Saxon and Merino breeds degenerate, unless ample protection is afforded from the rigors of the climate; and from the confinement incident to this management, originates the fatal rot, which connected with the necessity of providing provender through their long winters and late springs, makes the growth of the finer fleeces, above Mason and Dixon's line, an unprofitable business. The same remarks may be made, though to a more limited extent, of the treatment requisite in the prairies of the West; while in the South, in unexposed situations, and over large tracts of country, the hills and valleys are verdant with grass, pea-vines, or salacious herbs, throughout the year—no confinement, no sheltering, no feeding being necessary, beyond attention to ewes and lambs. Besides grass in the South, even in less favored sections than above described, comes much earlier in the spring than with them—is equally tender, nutritious and plentiful in summer, and remains free from the influence of frost much later in autumn. Should winter feeding be deemed essential, we have an article which they have not, in cotton seed, upon which sheep will not only subsist, but which, it has been said,

will actually improve the fleece more than any other known food. The expense, then, might be briefly summed up, after the original investment, thus: a few well trained dogs, plentiful saltings, shearing and attention during certain seasons to ewes and lambs. Dr. Martin, of Kentucky, thinks one shepherd and dog sufficient to herd and attend a flock of two thousand in the mountains.

The opinion has been prevalent, that warm climates affected injuriously the quality and quantity of the fleece. This is based upon the idea that the heavy dews of the night and the burning sun of the day, absorb the yolk. Although it may be true as to the plains, it cannot apply to the mountains and woodlands. As far back as the history of the sheep can be traced, he is a wanderer in the wilds of Africa, or roaming the hills of Spain, Italy, and Asia Minor; and the crossing of a white ram, fresh from his native desert, with the black ewes of Spain, in the time of the Emperor Claudius, and these again with the Tarentine breed, are the first improvements of which any accounts remain from the ancients. Spain, from that to the present time, has been celebrated for its fine fleeces; the Merino, and its decendant the Saxon, taking precedence in every market of the world, when delicate textures were wanted in cloths.

In New South Wales too—almost under the equator itself, sheep have thriven beyond all former example. In 1795, a small flock was carried there by way of experiment. Eleven years afterwards, two hundred and forty-five pounds of wool were exported; but in the mean time, the Merino having been introduced, flocks so augmented, that in 1830, two millions of pounds, within a fraction, found a foreign market, which again in 1839 swelled to the enormous amount of twenty-one millions. And what is no less astonishing, in the city of London, not long since, the best Australian commanded, next to the finest Saxon, the highest price—surpassing, in that respect, the famous Spanish Leonosa, or any of the native breeds of England.

If these views be correct, it is evident that the argillaceous soil—(which the celebrated Bakewell maintained gave a peculiar softness and elasticity to the fleece)—the genial climate, and the abundant grasses of the South, are adapted to the production of the finest varieties of sheep. All, therefore, that is wanted to make this favored region as great in the growth of wool, as it has been in cotton, is in a widely diffused spirit of enterprise among its citizens. The advantages of wool over cotton ought not to be overlooked. The prices of wool in the markets of the world are more steady and uniform than those of cotton, and sales equally certain—its production is more plesant—it yields upon a like investment would be nearly double, and it may be made the medium not of exhaustion, but of bountiful fertility to the soil. Even at the low price of twenty cents per pound, to which it may be reduced by an increased production, it is at least twice as profitable as cotton at six cents.

But where, asks an inquirer, is the market for wool? The answer is, that this country imports large quantities of wool—France

imports as much; Russia and the Netherlands scarcely less—and Great Britain, with thirty-two millions of sheep, averaging four pounds to the shearing, imports annually fifty millions of pounds—has a hundred millions of dollars invested in its manufacture, and this gives employment to half a million of persons.

G. D. SHORTRIDGE.

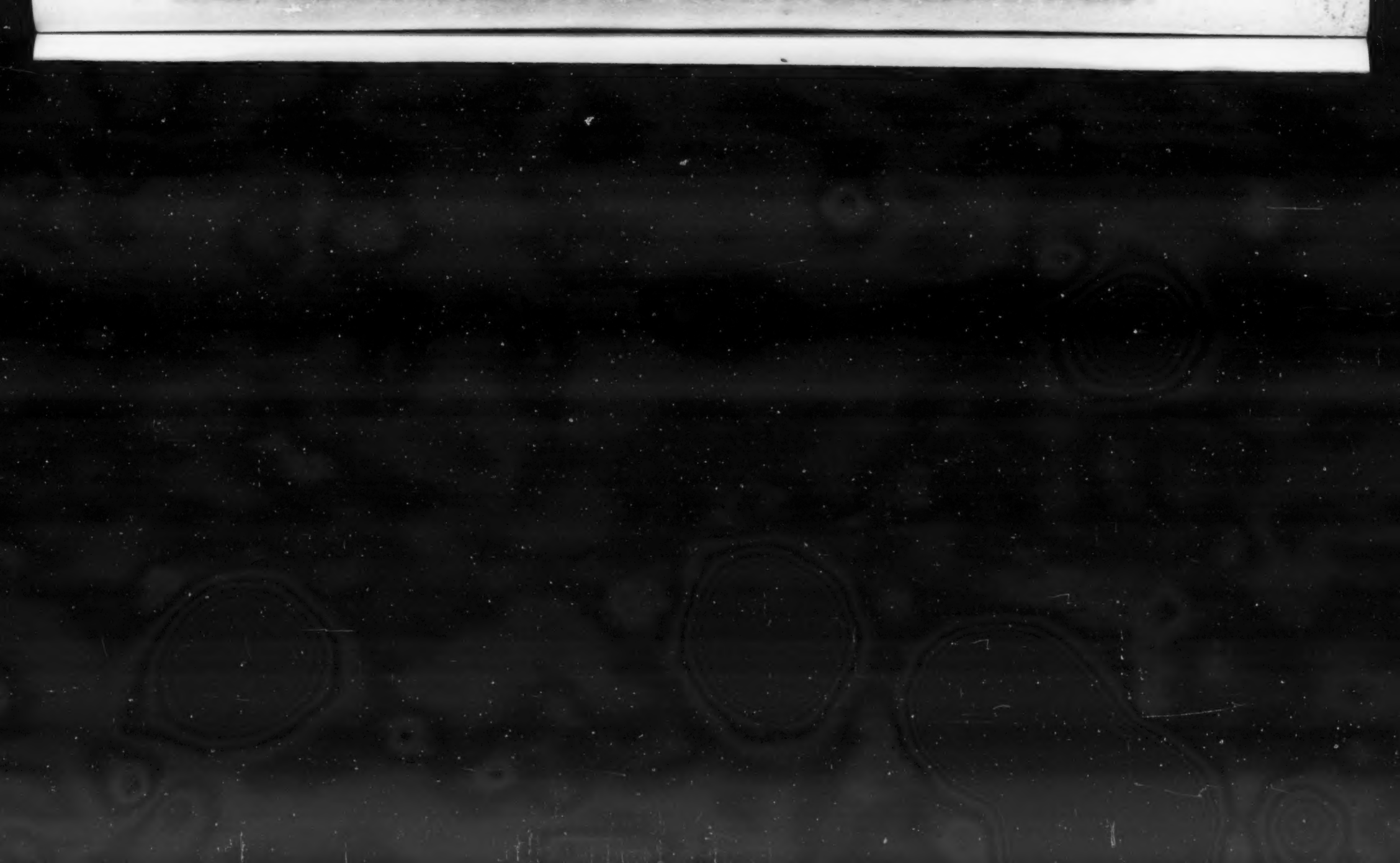
Hollybrook, Ala., Feb. 20, 1845. [*Alabama Planter.*

---

## WHAT SHOULD PARENTS DO WITH THEIR BOYS?

Many parents have sons, whom, when they arrive at years of discretion, they are uncertain what to do with. For instance, a respectable mechanic has a good, stout, hearty, and well-disposed son, whom he wishes to bring up respectably. If he is in easy circumstances, he somehow or other seems to think that his son must be brought up to some higher business than a mechanic. He therefore concludes that he must send him to college, and make him a lawyer, a doctor, or a clergyman, and the honest, well-meaning parent labors hard to earn money to pay the expenses of a collegiate education for the purpose of making him respectable—to make him take a higher rank in the world than that of a mere mechanic. Here is a great mistake. When the boy leaves college, what is he to do? He is then just qualified for nothing. He turns pedagogue for a while. He beats learning into the youthful progeny. But few, very few, think of pursuing the business of a schoolmaster as a permanent profession. After continuing it for a year or two, he quits it, and commences the study of one of the learned professions. Here are three or four years spent in preparing to become a professional man, and at additional expense to his father. He at last is admitted to the bar, or receives a degree of M. D., or is licensed to preach. The next thing is to get a living by the profession he has chosen, and this is not so easy a matter. All the learned professions are full to overflowing, and there seems to be no room for new beginners. The consequence is, that the young aspirant drags along without getting business enough to pay the rent of an office. Year after year he toils, or would toil, if he had any thing to do, without making half enough to pay his own expenses. To be sure, there are some whose superior intellect and commanding talents will enable them to rise at once to eminence, and to command a business which will render them independent; but these cases are few and far between.

When such do occur, the superiority of mental power will shine out beforehand, and should be fostered. But the propensity which some mechanics have of bringing their sons up at college, to make them more respectable, we think to be a great error. It is injuring his son more than benefiting him, unless some extraordinary mental energy displays itself in the youth. He goes through college, and thence



Proceeding soon, a graduated dunce,

he is just fitted for—what? He has spent the best part of his youthful days in qualifying himself for a profession, from which he cannot gain a living, or at least but a very scanty one.

In our humble opinion, as the professions now are, we should say to mechanics, and indeed to professional men in ninety-nine cases out of a hundred—give your sons a good education, and then put them as apprentices to some respectable business. They will then, as soon as their time of apprenticeship is expired, be independent, capable of earning an honest living at once. The profession of a mechanic is daily becoming more and more respectable, thanks to the good sense and good judgement of the present age; and it can no longer be thrown out as a mark of reproach, "You are a mechanic." It is, on the contrary, an honor.

As the question has been recently discussed among a few mechanics, what they should do with their sons, we should repeat, give them a good education, and then bring them up as mechanics or farmers, if you wish to insure them a comfortable, honorable, and independent living and station in society. [*Genesee Farmer.*

---

## THE SILK ON INDIAN CORN.

*Messrs. Editors:*—I have not the arrogance to suppose that any wisdom of mine will be greatly valuable to your agricultural readers; but as I feel a lively interest in their pursuit, and as the physiology of vegetation is with me a favorite study, I will, with your permission, suggest two or three hints in relation to the culture of Indian corn, hoping they may be of some practical benefit.

In the flowers of all plants, (unless the ferns, mosses, and similar forms of vegetation, be exceptions,) the organs that perform the principal office in reproduction, are the *stamens* and *pistils*—the former being barren; the latter, in favorable circumstances, fertile. In many plants, as the radish, the potato, the clover, these different organs are located in the same individual flower or floret. There is another race in which the staminate and pistillate organs are on the same plant, but in separate groups by themselves. The cucumber and the mulberry are specimens of this class, and so are most of our forest trees. Here, also, belongs the Indian corn. There is a third class in which the barren or staminate flowers are on one individual plant, and the fertile or pistillate flowers on another. The hemp and poplar are well known examples.

In each of these three classes, there is upon the stamens a dust, which botanists call the *pollen;* and though most kinds of vegetation may be propagated from the root, and many from layers or cuttings, like the mulberry, the seed or germ of the new plant cannot be produced, unless this dust is scattered upon the pistil. Hence, by

the way, as only the staminate tree of the Lombardy poplar has been introduced into this country, it has never been reproduced from the seed. Its propagation has been effected only by means of layers or roots; and this is the reason, I have little doubt, that this species of the poplar, which, when first introduced into the country, was a beautiful tree, and commanded a most extravagant price, has now so far deteriorated as to be entirely worthless.

In the Indian corn, the staminate flowers are those arranged in a semi-conical form at the top of the plant. Every one who has passed through a corn field in the flowering season, must have observed the profusion of dust from these stamens. The fibrous, silk-like appendages at the end of the ear, the base of each of which is enclosed by the husks, are the pistils. These threads lead along the rows, and *each one is connected with some embryo kernel of corn*. Now, in order to the impregnation, formation, and growth of these kernels, it is necessary that the fructifying dust from the flower above fall upon these filaments projecting from the end of the ear. But this is not all. It is supposed to be indispensable to the formation of each kernel, that the filament leading to it should receive a portion of the pollen. Experiments have been made which to my mind clearly prove this fact. When I remove the silk entirely from the ear before the plant is in flower, there will not be a kernel produced. A sort of receptacle for the seed will be observed, but the ear, for all practical purposes, is destroyed. The same is true, when instead of removing these filaments, we girdle the end of the ear tightly with a cord, though the dust is allowed to come in contact with the pistils. So if before the dust from the stamens begins to fall, one of these threads be destroyed, the particular receptacle or germ to which it led, is not impregnated, and no kernel will be formed there.

Of these facts it is believed many intelligent and judicious farmers are ignorant. When a boy, I used often in the flowering season of corn, to amuse myself by gathering the silk, sometimes in considerable quantities from the newly-formed ear, without the least suspicion of the injury I was doing; and I have since seen the farmers themselves, as they were passing through their corn field, pulling off these delicate fibres as carelessly as they would remove a fungus or a moss from a tree. It is mainly to suggest a word of caution to the farmer generally, and his more thoughtless children especially, that these facts, in themselves, it is hoped, not entirely, destitute of interest, are communicated. THEODORE THINKER.

[*N. Y. Farmer and Mechanic.*

---

## TOP-DRESSINGS FOR GRAIN CROPS.

The London Agricultural Gazette quotes the following conclusions deduced by Mr. John Hannam, whose experiments obtained the first prize of the Highland Agricultural Society. Mr. Hannam's investigations show—

1st—That *nitrate of soda*, *nitrate of potash*, and *soot*, have a tendency to increase the produce of wheat, both straw and grain.

2d—That *common salt* has a slight tendency to increase the quantity of grain, and to decrease the weight of straw; and that it increases the weight per bushel of the grain, and hence it may be advantageously used as an auxiliary to other manures.

3d—That *sulphate of soda* has no visible effects upon the wheat crop.

4th—That *ammoniacal liquid*, from the gas works has an astonishing tendency to increase the produce of wheat.

5th—That nitrate of soda may be applied with the greatest advantage as a top-dressing for winter wheat, which does not answer our expectations at spring.

Conclusions of a similar nature are deduced from several other experiments with the same substances. Mr. Gardiner's experiments (Trans. Highland Ag. Soc, July, 1844,) led him to conclude—

1st—That all dressings and manures containing a per centage of nitrogen, as guano, rape dust, salts of ammonia, nitrates of soda, &c., make the grain grown by them lighter in weight per bushel, while at the same time they give more bushels per acre, as well as more straw.

2d—That, on the other hand, such manures as common salt, give heavier grain per bushel, but fewer bushels per acre.

3d—That if the same be found true on all soils, the most judicious and economical method is, to use a mixture of these, as common salt with nitrate of soda, or any of the others; the one will give *quantity*, while the other will give *weight*.

4th—That guano does not lessen the weight of grain quite so much as the nitrates of soda and potash, and that a mixture of it with salt would, there is reason to believe, become one of the best dressings for wheat crops.

5th—That salt will, in places far from the sea, in general be found advantageous as a dressing on grain crops.

6th—That guano is a universal manure, and has in all cases, been found an acquisition. [*N. E. Farmer.*

---

## A NEW PROCESS OF TANNING.

A respectable gentleman of Ohio, a few days since described to us a new method of tanning leather, for which he has taken out a patent here, and is now on his way to England to obtain a patent there. As this new system is represented by practical men to possess many advantages over the process at present in use, it is worthy of public notice.

The invention consists in perforating the hide or skin to be tanned. This is done (after the skin is cleaned and ready to put into the tan to ooze,) with fine steel points—as, for instance, a fine

article of cotton-card combs, numbering from fifteen to eighteen teeth to the inch. These combs are placed side by side, and screwed firmly together, in a kind of iron box, with a handle on the top, which is struck with a mallet, on the grain side of some, and the flesh side of other kinds of leather, sufficiently hard to send them through. This operation is performed when the skin is in the most relaxed and flexible state, so that the fibres yield readily to the points, as scarcely any traces are observable after the leather is tanned, further than upon the grain or epidermis.

The advantages of this over the old mode of tanning are, that it greatly facilitates the process, makes a better leather, and saves bark and fixtures. In this way, calf-skins can be tanned in from ten to twenty days, in cold white oak ooze, while by the old process, the time required does not average less than four months. This is a desideratum, in supplying a means by which the tanning can be infused throughout the hide or skin in the shortest possible time after it is prepared and put into the ooze, a strong objection to the old method being that the frequent tanning and re-tanning of the two surfaces, in order to tan the interior or body of the skin, is a positive injury to the leather, as it makes it harsh and brittle, and more liable to break. This objection is obviated by the new process, which exposes a much larger surface to the immediate action of the tanning, which is absorbed so readily that the ooze must necessarily be renewed or strengthened more frequently, whereby it never becomes sour. As respects the saving in fixtures, it is stated that as much leather can be tanned in five vats by this process, as can be tanned in fifteen, under the old system. [*N. Y. Mech.*

---

## ON THE REARING OF NEAT CATTLE.

At a late meeting of the Farmer's Club at Burton, a discussion too place on "the Rearing of Neat Cattle," the following report of which we copy from the London Agricultural Gazette:

Mr. Lander said—"It may not be improper, first, to consider what is the kind and quality of animal intended to be reared. The breeder will bear in mind what he particularly requires, whether hardihood, size, early maturity, an aptitude to feed, or a fitness for the dairy; it may be that some of these qualities, by judicious selection, will be combined. I am satisfied that, as a man is placed regarding climate, soil, and elevation of his farm, he may select from several breeds such beasts as will suit his purpose. In cold and mountainous districts, Scotch or Welsh cattle might be chosen, very good milkers, with fine skins, and feeding propensities; so might Herefords, and long-horns of the improved breed; but none with quite the early maturity of the short-horned, or Durham breed of cattle—though these last will not bear, with advantage, the severe treatment and coarse food upon which some other breeds will exist.

As a general rule I have found, after much observation, that if you want size, as well as symmetry, the calf which is dropped a large one more frequently makes a fine beast than the animal which at its birth is diminutive and small boned. Unless the demand for milk be imperative, it is always best to let a young calf have the mother's milk for ten days or a fortnight. After that time I have found boiled Linseed and hay-tea, with skimmed milk, for a few weeks to answer the purpose, or the milk may be made into porridge with wheat flour, or, better still, with bean-meal; the linseed-tea and hay-tea may be increased, and the milk reduced in quantity at discretion, or whey may be substituted for milk. The hay-tea is made by pouring boiling water upon a pan, tub, or barrel full of hay, covered up and left to stand for 24 hours (12 may do;) if you like, you may afterwards dry the spent hay, and cut it up with other food for older cattle. When the calves are a month or six weeks old, they will begin to taste hay in the rack; or cut a few turnips, which the older part of them soon entice the young to eat, and the prepared liquids may be diminished. Much depends upon the time of the year, how long it may be necessary to prepare food for calves. In warm weather, and at the beginning of summer, a calf will get its own living at two months old; sometimes it is better to feed for three months.

I have, within the last few months, fed a calf from a little Alderney cow, with one pennyworth of oil-cake a day, and milk more than one-half of it skimmed; it was very fat, and at a day or two over six weeks old was sold for for 3*l*. Calves intended for the butcher, should be tied up in a dark place; those for rearing, after the first fortnight, should be loose, with light, in a roomy place, which though it may occasion the consumption of more food, is most conducive to health, and to the increase of muscle or fibre, which constitute the lean of all animal meat, and for which reason it is found that with their wild scrambling life, hardy breeds and mountain cattle contain more of this flesh than those which are passively and rapidly made fat.

Little care of young cattle is necessary during the warm summer months, if they have food, shade, and water in abundance; but it is of the first importance not to let calves sink in condition by leaving them out too long unprotected in the autumn. At the end of October, or sooner, if the weather be wet and cold, they should have a yard and shed for the night, and such food as will keep up their condition, for which nothing is better or more convenient than the tops of turnips, with such cut food, hay, or straw, or both mixed, as may be had. As the season advances, common turnips and a longer daily shelter will be wanted.

During the first winter, there is one disease, called the black quarter, which is much to be dreaded; it is, I believe, much promoted by a quick transition of condition. I have been generally very fortunate in escaping this infliction. It was my usual practice, when rearing calves, during the first winter, to administer half a

pint of strong salt and water once a fortnight to each calf; and when that was not neglected, I never had a loss. Salt is a condiment, and not a food; and if so used judiciously, but not constantly, with cut food, or crushed corn, or oil-cake, I doubt not it would materially contribute to the health of young animals.

There is another complaint to which young stock is subject, most generally in the second summer and autumn, though often in the first; and at the latter time, in my early farming days, I lost several calves by it. I allude to the disease commonly called the hoost—a complaint caused by the larvæ of an insect. I imagine the larvæ are deposited in the nose, where they grow and flourish until they go into and fill the windpipe, forming a white ball, like a skein of entangled thread, or very thin white worms; these I have often found after death. The only remedy I know as successful is, to pour about a good tea-spoonful of spirits of turpentine into one of the nostrils, holding the head up for a minute, or a little more, if calves; but for the older beasts, a desert spoonful of the spirit. After the first winter has past, I believe you will not think further advice necessary in the care of stock; but as to the after-treatment of cattle, dairy cows especially, permit me to add, that I have had long experience in partial soiling of them and have found that a good fodder-ing of green clover, or vetches, night and morning, with field-room during a good part of the day, will produce more milk than either entirely stall-feeding or none at all, and enable you to keep a larger stock on the same extent of ground than by pasturing only. And I believe, though I cannot say this has been proved, that if the soil-ing were not of clover, but entirely of vetches, green beans, peas, lucerne, or any pulse crop, the amount of casein, or cheese, in the milk, would more than equal that obtained by entire pasturage in the field. For winter feeding, cabbages, or meal from pulse, are necessary to keep up the formation of cheese.

Mr. G. Greaves: I think calves should have milk longer than a fortnight. The natural formation of the calves' stomachs proves that it was intended that they should live on milk for some time, and if any other food be substituted, it should resemble milk as nearly as is practicable; but I do not know that hay-tea will furnish any of the required substances for the sustenance of the calf.

Mr. Landor: I agree with Mr. Greaves in his theory, but I have found the practice of using hay-tea so uniformly successful, that I will rely on my experience that it does form an excellent food for calves.

Mr. Ward: With regard to blackleg in calves, a very excellent and large breeder in this country assures me that he effectually prevents the disease by cutting down to the veins of the foot and dividing them just before they separate and branch off to each hoof; he divides the vein in every foot of the calf.

Mr. H. Meakin: I approve of Mr. Landor's plan of rearing. I noticed in the Transactions of the Highland Society, that the use of oil-cake was the best preventive of blackleg.

Mr. Lathbury: I give my calves milk for six weeks. I lost several calves last year with blackleg; but I have reason to believe that with proper precaution the disease may always be prevented. I have this season put a rowel in each of my calves, and I give to each an ounce of salt-petre once in three weeks. I have not lost a calf since. I am keeping my calves on steamed straw and hay, and they were doing remarkably well on eight parts straw to two of hay; since Christmas I have added a few grains and Swede turnips; some of my calves were in the market to-day, and I believe you would remark that they were in good condition.

Mr. J. Greaves: I rear but few calves, but I have had enough experience to convince me that young stock should always be well kept. I am in favor of carrying the principle of good keeping even further than Mr. Landor has advised. I give my calves milk six weeks or two months, and wean them from it gradually. This year I have soiled them in sheds with vetches, on which they have thriven remarkably well. A neighbor of mine, too, put two of his calves on pasture, and other two he soiled on vetches; the last were very superior indeed to the pastured ones. I am now keeping them on steamed rye and vetch hay, with grains. I like to keep them well throughout the year, and I think they pay well for the extra keep; they come to maturity earlier; you can get a two-year-old as large as an ordinary heifer, and can bring them to the pail a year sooner; besides, the quality of the beast for fattening, or for milk, is much improved by good feeding in its early growth.

[*N. E. Farmer.*

---

## FENCING—NO. II.

In my last, I omitted to state one of the losses from fencing, which, though trifling to each individual, amounts to something in the aggregate. A mile of our worm fence occupies half an acre of ground. If there are 100,000 miles of fencing in the State, then 50,000 acres of land are covered and made useless by fences. Supposing its average value to be $5 per acre, here are $250,000 more of capital lying idle.

In most parts of Europe there are no fences, and you may travel, day after day through beautiful fields, coming up to the roadside. One feels as though he was riding through his own plantation. Here the odious fence, which shuts out all the beauties of the crop, and frowns defiance on every passer by, eternally marks the fact that you are on another's soil, and a mere way-farer. How much the pleasure of travelling and the interest in agriculture is diminished by this.

Then again we have here to keep up endless lanes—to close up or change roads, or put up gates, which are expensive, troublesome, and a constant source of vexation. Half the troubles of a planter's life are in some way connected with his fences. Besides the never-

ending labor, he has to dog, wound and kill his own or his neighbor's hogs, which are sure to find all the weak places, he after all loses more or less of his crop every year. These trespasses, and the closing or changing of roads, or leaving open gates, occasion nine-tenths of the heart-burning and quarrels among neighbors. It is scarcely possible to maintain "peace and good will on earth" where rail fences and stock ranges are the fashion.

I have said that after all, our ranges are of little or no value. I believe that in most instances we feed as much to our hogs, at any rate as they would require in pens, and as much as the proper number of good cattle would consume. Let us suppose that we feed only half as much now, as we should feed without ranges, does any one doubt that if our stock was kept up all the year round, and their food doubled, they would give us double the meat; or, in other words, that with the same food, half the number of stock would give us just as much meat as we get now? Our range system deprives us of all the benefit of improved breeds of all kinds. Berkshires and short-horns were not made for grass such as our woods afford, or cane and acorns. They are, when so treated, inferior to our native breeds. Feed both breeds, however, and the improved ones are twice as valuable as the native. Now hogs put up to fatten, will generally require about four bushels of corn each, when in the pen, and weigh perhaps 150 lbs. net. They have consumed at least as much, first and last, before penning. I doubt if we do not, with all our range, give at least ten bushels of corn for every 150 lbs. of pork killed in this State. Now, after some experiments, I will guaranty, that if a sow is fed with half a pint of corn daily, properly prepared in slop, for every pig she has, until it is weaned, and the pig be then allowed the same, gradually increasing the quantity until the ten bushels are gone, he will weigh at that time 300 lbs. Of course, it must be done judiciously, and without waste. If the corn is ground into meal, or the corn and cob ground up fine together, and boiled or fermented, it will go much farther. And all this can be done with as little trouble as feeding in the common way. A hand will attend to more hogs in pens, than he can properly attend to in ranges.

By the proposition thus stated, the hog raiser will at least save himself by keeping up his hogs. If his neighbors would all do the same, they would save the expense of fences. But while the hog was consuming his ten bushels of corn, he would, if properly supplied with litter, make at least two hundred bushels of the very best quality of manure. One hand could supply litter, &c., for 100 head of hogs; or it might be done as our stables are, (too commonly,) filled only on rainy days. The adoption of this system, however, accompanied with the certainty of making a large quantity of manure with little comparative feeding, would induce planters to make the manufacture of manure a regular business. A hog will not consume more than the eighth of what a horse will, and his manure will nearly equal in quantity and surpass in quality, that of

a horse. Two hundred bushels of hog manure put on corn, say fifty bushels to each acre, will make a certain increase of five bushels per acre, first and last, if not more. We have, then, twenty bushels of corn returned to us, for ten fed away. Of this, ten bushels will more than cover the extra trouble of making and putting out the manure, and the other ten will replace that consumed by the hog. We then actually get the hog for nothing, while our land is improved, and our bacon also.

These calculations, sufficiently verified, induce me to keep up my own stock for my own profit, though I live in a pine forest contiguous to swamps, and have ranges and fence timber *ad libitum*. If all would do so likewise, I cannot help thinking the greatest advantages would result to the State. If a law was passed, requiring every man to keep up his stock, on pain of forfeiting them, I believe it would be of more real service to agriculture, than any one law the Legislature could pass.

We should save $1,000,000 annually; we should have an end put to half the quarrels, fights and law-suits that take place; fine breeds of stock of all kinds would be introduced, appreciated and taken care of; our lands would be improved, and our crops increased; and finally, we should all raise our own bacon—at home, and actualy without cost—and all of these benefits would produce, in turn, many more necessarily arising from them. COKE.

[*South-Carolinian.*

---

## MANUFACTURE OF MANURE.

I think I may affirm, from what I frequently witness in the mode of making and managing manure, that many do not sufficiently consider the great difference between strong and weak manure, in its fructifying quality and durable effects in invigorating the land to which it is applied; and this is an important thing for every farmer to well understand. If straw and hay only, without cake or corn, compose the manure that is taken to the land (and many, to my knowledge, even of those who could well afford to buy them, continue this bad practice,) comparatively it is as sour small beer to a man who has an extraordinary task to perform, and needs the aid of a powerful stimulant to enable him to accomplish it. As the man would fall short under such treatment, so does the land fail in like manner. Now if I can show that the corn given to stock upon a farm, is all returned in extra produce, besides manifold advantages, which your sagacious readers will readily discover, surely all that have the means of entering upon this system will do so. I will take my own business for an example. I shall this winter use 100 quarters of corn upon my stock, exclusive of horses. I calculate the manure I shall make with which this corn is incorporated will ma-

nure well 36 acres, and as my system of farming is three crops and a fallow, three crops will be gathered before the same land will be manured again. I will ask any practical farmer, may I not reasonably calculate upon a quarter of corn per acre more upon each of the three crops, than I might have expected, had I put on the same land the same quantity of manure of the weak kind, made from hay and straw alone? Assuming, then, that I get one quarter of corn more in each of the three crops by using the corn, the 36 acres in the three years return 108 quarters extra produce for the 100 expended. Of course it will be obvious to every practical man, that manures should not lie in the yard, exposed to the washing of heavy rains, but made principally under cover, and frequently collected into a heap, and well secured until taken to the land, and especial care taken that the fermentation does not become too rapid; to prevent which any thing may be mixed when it is put together, this is likely to check and cool it. I use sand when I cannot obtain any thing better for that purpose, and to cover the heap over to prevent it being weakened by evaporation. A farmer does not require a philosopher or a chemist to inform him wherein the strength of manure consists; he has only to refer to his cattle-stalls, his pig-sty, and dove-cote; it is there seen that the manure that contains the most corn in proportion to other matter composing it, is invariably found to be the strongest and best.

[*A Farmer, in Bell's Weekly Messenger.*

---

## FOOD FOR THE HARD-WORKING SEASON.

Every good farmer knows, if he wishes to have an animal well prepared for enduring work, that it must not only be well fed, but the food must be of the proper kind; otherwise it will get too fat or too poor, soft and watery, or carry too much bulk in its stomach. Just so it is with man; and in order to accomplish his task with ease and energy during the most busy part of the season, he should pay particular attention to his food. His object is to acquire the *greatest degree of muscle* with as little fat as possible. In fact to use a trainer's phrase, he must get into *condition*, which will add greatly to his strength, and ease and quickness of motion. To acquire muscle, then, we must eat such food as makes it in the greatest perfection.

The lean of venison, beef, mutton, pork, hams, and shoulders, is the best meat for this purpose; next comes veal, poultry and the drier kinds of fish; side pork is too fat and gross, and should be avoided as much as possible, especially during the summer season. It is decidedly better, to eat meat fresh: salted, it makes one so thirsty that he is apt to overload his stomach with water, and thus become heavy and sluggish. Oat-meal is undoubtedly the best for bread; but as the American farmer is not accustomed to it, he prefers wheat, then rye, with both of which a slight quantity of

Indian meal should be mixed. We have heard barley bread much vaunted; yet as we have little experience in it, and that not of the most favorable kind, we do not recommend it; and if we did, we doubt whether our farmers would consider it fit for their tables. Oatmeal cakes we have often eaten, and relish it highly. Corn-bread has a large per centage of oil in it, and for this reason it is rather too freely used at the west and south. Rice is much used at the south for bread, and should be placed before corn. Of vegetables, beans and peas stand far higher than any within our experience; mealy potatoes come next on the muscular list; but as to most of the other kinds of vegetables, they are too watery, and should be eaten sparingly during the hard-working season. Cheese is good, especially that made from skim-milk, as it abounds more in caseine than the other kinds. Butter should be avoided as too fat. Milk is not solid enough for hard work.

The best drink we ever found to quench thirst, was water slightly sweetened with sugar, and then made a little tart with pure cider-vinegar. It is also one of the most wholesome of drinks. Weak tea or coffee, with milk or sugar in it, is usually healthful drink with breakfast and supper.

Half an hour to an hour's rest should always be taken after dinner; this gives the stomach an opportunity of digesting the food well, which is important to a hard-working man.

[*American Agriculturist.*

---

## CASTOR OIL, MANUFACTURED IN GEORGIA.

Extract of a letter from Professor Means to the Editors of the Southern Medical and Surgical Journal.

While the great staple of the South has become a drug upon the markets of the world, and its extensive cultivation is discouraged by the consequent reduction in price, the public mind has been fortunately constrained to direct its attention to other ample and, hitherto, unappreciated facilities, completely within its reach—furnished by our bold and effective waterfalls, diversified soil, and delightful variety of climate, and promising equal usefulness and a better remuneration for an equivalent outlay of labor and expense.

Actuated, as we suppose, with these views, our worthy and enterprising friend Mr. J. Willis, of Troup county, Ga., has abandoned the cultivation of cotton, and most successfully commenced the growth of the *Ricinus Communis*, or Palma Christi, (the castor oil plant.) During the past year, he manufactured about 1500 gallons of oil, which were mostly (we believe) purchased by the druggists and physicians of Columbus, and the circumjacent country.

We were favored with a specimen of the article referred to, and cannot but regard it as a fair and beautiful oil—almost destitute of color, or smell, and with as little of the unpleasant flavor, peculiar to

the castor oil bean, as is consistent with unadulterated preparation—clear, bland, free from rancidity, and without any foreign admixture, it constitues an admirable article for domestic use, and in *our* hands, manifested mildly, but effectively its cathartic property. The East Indies have heretofore furnished probably seven eights of all the oil consumed in England, but for the last several years, American oil, derived chiefly from the British Colonies and the Western States, has been exported to that country, to the amount of perhaps from fifty to eighty thousand pounds annually. The latter article, though confessedly of fine quality, and possessing a flavor superior to the East India oil, has yet been regarded as objectionable on account of the deposit (in cold weather) of a white, flaky matter, which some have supposed to be margaratine—flatty salt, consisting of the two proximate constituents, margaritic acid and glycerine. Others have supposed it to be the result of adulteration from olive oil, which is known, at low temperatures, to deposit what Pelouze and Soudet regard the margarate and oleate of glycerine *(the hydrated oxide of glycerine)*—an unlikely supposition however, in our estimation, as most of the latter oil is *imported* into this country from the south of Europe; and at too high a price to warrant the fraudulent admixture with the castor oil designed for *exportation*.

We are rather inclined to the belief that such deposits, so frequently found in the American article, is from the liberal admixture of *animal* oil (*adeps sullus*) which does not sustain its fluidity under from 78° 5' to 87° 5'. This may, perhaps, account for the rancid and acrid nature of some of the castor oil of commerce, as the oleine of the lard, readily becomes rancid, i. e. acquires a disagreeable odor, and acid properties, by exposure to the oxygen of the atmosphere. Indeed the deposite of margarantine, from castor oil, if any, should be exceedingly small, as not more than .002 of the entire products of saponification, consists of margaritic acid.

The oil manufactured by Mr. Willis, we believe, fully sustains the truth of this latter remark, and as a specimen of southern enterprise, alike honorable to his skill and industry, commends itself to public confidence and popular use. Mr. W. will be prepared to execute large orders this fall and winter, and assures us that "it shall not cost more to druggists or other purchasers, whom he may supply, than the best article does from any other quarter," and all he asks is, that, other things being equal, *home manufacture* may have the preference.

A. MEANS.

---

## LIVINGSTON'S IMPROVED COTTON CLEANER.

Some months since our attention was called to a machine invented and constructed by Mr. R. M. Livingston, of this city, intended to facilitate the cleaning of cotton. It appeared to be admirably calculated to effect the object, and several enterprising planters deter-

mined to make a practical application of the invention, and test the value of it by actual experiment. The result has surpassed general expectation and fully realized all the hopes of the ingenious inventor. It now takes rank among the most valuable improvements of the day, and is destined to find its way into every gin-house throughout the cotton growing region. We take much pleasure in calling the attention of planters to this valuable invention, and in commending the proprietor to their notice and patronage. The machine is simple in its construction and is afforded at a very low price, and will last, we are told, some ten years.

Among a variety of testimonials submitted to our inspection, we select the following from planters of known respectability.

The following is from Samuel H. Brantly, Esq., dated:

Pineville, (Mi.) January 11, 1845.

*Dear Sir:*—Believing you take an interest in all matters connected with the production of the main staple of our State, I would request you to call the attention of my brother farmers to a machine for cleaning and preparing cotton for the gin. The time has come I think when we must pay more attention to getting out our crop; and since it is so difficult a matter to get much if any thing for our poor cottons, we must, I say, look to the way, and the manner we get out our crops. I take great pleasure therefore, in speaking of this machine, invented by a Mr. Livingston, of Mobile, for taking out the leaf in cotton. I have had one of these cleaners in use for over a season, and find it improved my cotton very much, and without any injury to the staple, by twisting as the common trasher does. To experiment it, I tried some of the cleanest of my first pickings with it; I ginned half without using the cleaner, and the other half I cleaned and ginned, and every one immediately pointed out the difference. I think it must have improved it a half a cent, and my poor cottons fully one cent. Last season I had some cotton that got drowned. After it was dried I could not get the gin to gin it, as the fibre dried close to the seed, and I had to throw it aside; but I tried it in this machine, and it opened the staple finely, so that the saws could gin it, and rendered that, which I thought of no account, marketable. As this machine is not as well known as it should be, I have no hesitation in saying, it is the best I have ever seen, and hereby ask you to publish this and oblige your friend,

SAM'L. H. BRANTLY.

FROM RUSSEL P. M'CORD.

Lowndes County, Nov. 15.

I am very much pleased with your cotton screen. It takes out every particle of dirt or dust, and when the cotton is perfectly dry will throw off all the leaf. It must improve cotton fron 1 to 2 cents per pound.

I have tried the cleanest cotton I have picked this season, by ginning some without running it through the Screen, and every one who looked at it, instantly pointed out the screened cotton as best.

With many wishes, &c.

FROM SAMUEL M. HILL.

After trying your improved Cotton Cleaner, I must say that it does better than any machine of the kind I have ever seen in use, as it cleans the cotton (if dry) of all dirt and trash, without any injury to the staple by twisting it as most of the whippers do.

Upon the whole, I think it of great advantage to farmers.

Respectfully yours,

FROM COL. V. H. GARDNER.

Dallas Co., April 4th.

I have given your late improved Cotton Cleaner a fair trial and am much pleased with it—in fact I consider it the best whipper in use, and if I was allowed to decide, I should say you have carried your improvement far enough, for it answers all the purposes desired. I think that every planter that does not use one stands very much in his own light. Your friend, most respectfully.

FROM DR. H. W. RODES.

Noxubee, Co., Miss. April 5.

*Dear Sir* :—I have given your Cotton Cleaner a fair trial, and I do assure you that it has surpassed my most sanguine expectations. It separates the cotton entirely from the dirt and leaf (if it be dry.) My opinion is that it will add one cent to the value of cotton picked late in season. As the best evidence of the estimate I put upon your machine, I wish you to send me three more, (this spring,) as I intend to attach one to each gin the ensuing season. I will further add that it does not twist the cotton or injure the staple.

Yours, very respectfully.

[*Mobile Register.*

---

## PLANK FLOORS INJURIOUS TO HORSES.

Why are elevated plank floors in stables injurious to horses feet?

1st. Because they deprive the hoof of receiving certain assistance, which they require for their well being, and which in a state of nature they receive by moisture. The hoofs of horses are a horny, elastic, poreous substance, capable of receiving moisture, which is indispensably necessary to their well being; in a natural state they receive it, and in a domesticated state they might, if men would hearken to the mandates of nature; the evils of domestication to the horse are recognized by many intelligent observers and admirers of the horse, in proportion as we vary in our treatment to the horse, from his natural way of living, in the same ratio does disease and

lameness exist; 'tis a solemn fact, start not at the idea, that the diseases of horses are induced by the deeds of men; candid observation will prove the truth of this assertion. The horse's natural floor, the earth, is the best, and only suitable floor for him; on that, his hoofs receive requisite moisture, on plank floors they do not; why? because it is not there. The plank floors are generally (always I believe when they are made fashionably,) made higher at the fore-part, than the hind part; consequently, what little moisture there may be from the dung or urine, is drawn away from the fore-feet; the effect is, the horse becomes lame in the fore-feet, hoof-bound, narrow heels, &c., while the hind-feet remain sound and healthy; why? because the hind-feet receive moisture from the dung, urine, &c., when the fore-feet fail to receive it, will be found on examination that nine-tenths of the horses that are lame, are so in the fore-feet, stage, carriage, road and hackney horses, that are stabled all the time, (except when in use) are generally the subjects of such lameness. A majority of writers and farriers, acknowledge and deplore the prevalence of lameness in the fore-feet, and as it is easier to cut a knot than to untie it, they say that bad shoeing is the cause of all this lameness; so blind are they to cause and effect, that they appear to me to know not what they say; they have got the boot on the wrong leg, and I will show it. Blacksmiths are like other men, they have their failings, and may perhaps lame horses occasionally, but because of this, must they bear the blame of all other men's misdeeds? No, no, they should not, nor will not, if we would only seek for the true cause of all this lameness. I am a blacksmith, I stand good for the defence of myself and brethren when falsely accused. The same cause will produce the same effect; horses that are kept up are generally shod all round by the same man, and in the same manner; well now, if bad shoeing lames the fore-feet, why will it not lame the hind ones in the same manner? Tell us why, you fault-finders who falsely accuse horse-shoers? or else desist; look at the effects of your own bad management, niceness and false philosophy, and you will find that your dry plank floors are the cause of so much lameness, and not bad shoeing.

Another evil attendant upon making the stalls higher at the front, is, that it compels a horse to stand in an unnatural position, which is certainly improper; when a horse stands in such a manner, the muscles and arteries of the hind legs are kept constantly on the stretch; frequently producing windgalls, &c. These ideas, if true, may suggest the idea of level stable floors; and of the importance of moisture to the hoof, which may be imparted by washing with water, daily, the legs of the horse, with water that must of necessity be kept in the stable.

J. MADDOCK.

Richland, Ill., June 20th, 1845. [*Western Cultivator.*

---

*Soap-Suds.*—Apply them to melons, squashes, and cucumbers, or to any plants infested with the plant-louse.

TENNESSEE STATE LIBRARY

## INSTINCT.

We are told by Galen, that on opening a goat big with young, he found one of the young ones alive, which he hastily snatched up, and took it into a room where there were various vessels severally fitted for the purpose, with wine, oil, honey, milk, grains and fruits. The little kid first rose upon its feet and walked; then shook itself, and scratched its side with one of its hoofs: it next smelt alternately at all the dishss before it, and at last fixed upon and licked up the milk. In this case the sense of smell went distinctly in aid of the instinctive search after food, and determined the particular kind: so that the instinct and the sensation co-operated. [*Western Cultivator.*

---

## PEAS.

A correspondent of the Indiana Farmer and Gardener, a paper by the way very ably edited, has the following in reference to preserving peas free from the bug. "I have been in the habit of destroying the almost invisible larvæs of the pea bug, by pouring boiling water upon the peas immediately after they are gathered. The vitality of the seed is apparently not effected; and the bugs never infest my peas. A *suitable* vessel must be provided to put the peas in, when the water is added; and the time the water remains on them must be proportioned to the conducting power of the materials of the vessel, whether it be wood, earthenware, tin or other metal. If the tin vessel should be highly polished, as when newly cleaned, or newly made, the heat will be very slowly radiated from the water, and of course the peas should not remain so long in the hot water. One minute in a dull, tarnished wash basin, is sufficient. But a more easy, and an equally effectual method of avoiding the bug, I have also practised for years; and that is, to put the peas, as soon as dried, into a jug or bottle, or any thing that can be hermetically sealed, place the cork or stopper in, and cover it carefully with wax. Nothing will be seen next year but the speck spot in which the larvæ died. My peas always succeed well, as to germination. Perhaps the first method would be best for field crops, and the second for garden crops." [*Western Reserve Magazine.*

---

## BUDDING THE PEACH.

We have often thought, and indeed know, that the budding of the peach on the plum stock is an advantage to the tree in point of durability, particularly on the softer kinds, as the Native Merripin, or Horse Plum. It will preserve it, too, from the peach worm. It is not so easy to succeed on plum stalks, but we think there are evident advantages in the plan. [*Western Farmer.*

## DISSOLUTION.

The undersigned have sold out their entire interest in the "Bommer Manure e-thod" to Mr. George Bommer, of N Y; in consequence of which the partnership heretofore existing between us, was dissolved on the 6th ultimo by mutual consent.

Our agents are requested to make up their accounts to the 6th of November, and forward them to Tho. M. Abbett, Baltimore who is solely authorised to settle.

For any transactions after that date they will account to Mr. Bommer.

TH. M. ABBETT,
CHARLES BAER,
JOHN GOULIART.

Baltimore, Dec. 14, 1844.

N.B.—Charles Baer is the General Agent for Mr. Bommer in Georgia, and John Gouliart his General Agent for the State of Maryland.

---

## BOMMER'S MANURE METHOD.

We have the satisfaction to announce to the Planters, Farmers and Gardeners of the vicinity of Charleston, that the Books with the Patent right, which Mr. Baer has caused to be sent on to the subscriber for disposal, have been received from Baltimore, and may be had of him on the terms before specified. Those who have bespoke them, will do well to call and obtain copies early. He also has received a report made to the Legislature of Maryland in favor of the method, which is daily gaining the public confidence whenever it is known. In the mean time we refer our readers to the last December and March Nos. of the Southern Agriculturist for some information on the subject.

A. E. MILLER,
No. 4, Broad-street.

---

## PLOUGHS, &c.

The subscriber has constantly on hand, Ploughs of every description, embracing nearly all the patterns of Freeborn, Mayhu Davis, and those from the celebrated manufactory of Ruggles, Nourse and Mason. His prices range from $3 to $10, according to the size and quality. Where many are taken and paid for at the time, a deduction will be made on the usual prices. Also Cultivators, Corn and Cob Crushers at reduced prices; Mott's Agricultural Furnaces, and every implement required for the field or garden.

J. D. LEGARE,
No. 81 East-Bay.

---

## RUFFIN'S CALCAREOUS MANURES $1.

## ELEMENTS OF AGRICULTURAL CHEMISTRY,

In a course of Lectures for the Board of Agriculture, delivered between 1802 and 1812. By Sir H. Davy.

## WESTOVER MANUSCRIPTS,

Containing the history of the Dividing Line between Virginia and North-Carolina. By Wm. Bird of Westover.

## THE BANK REFORMER. By Edmund Ruffin.

## THEORY AND PRACTICE OF DRAINING AND EMBANKING. By John Johnston, Esq.

For sale at A. E. MILLER'S, No. 4 Broad-st.

*In Charleston*—D. G. Joy, Miss Pinckney, A. G. Rose, H. Sollee, Gen. Schnerlie, Dr. Bachman, Charles Alston, J. K. Munnerling, Francis Withers, Agricultural Society of South-Carolina, Edward Barnwell, Jur., Hon. Henry Deas, Edward M'Crady, Jonathan Lucas, Col. T. Lehre, B. S. Rhett, Thos. Milliken, Gilbert C. Geddes, J. W. Faber, Wm. W. Smith, A. H. Belin, John L. Nowell, Soloman Legare, Wm. Brisbane, D. F. Jenkins, C. F. Neyle, Isaac M. Dwight.

J. P. Belknap, Jacksonville, Florida, - - - - - - 1845
Dr. E. W. Daniel, Gainesville, Geo., - - - - - - - 1845
Mr. Thomas F. Drayton, Hilton Head, - - - - - - 1845
Gen. James Hamilton, Alabama, - - - - - 1844, and 1845
Josiah C. Dunham, Eatonton, Geo. - - - - - - - 1845
Edward Barnwell, Sen. Beaufort, - - - - - - - 1845
S. K. Simons, St. John's, - - - - - - - 1844 and 1845
Capt. L. White, Sumterville, - - - - - - - - 1843

## TO OUR READERS.

The present Number is compiled from the various *exchanges* we receive—with the exception of a communication on *East-Florida*, furnished by JAMES A. MIMS, Esq. *Does it not reprove those Planters sufficiently who have leisure on hand and will not contribute to the general stock of information*, by sending us their experiments for publication?

Communications intended for our Journal, must be sent by the 15th of each month.


## VALK & CO.

### Exotic Nursery and Horticultural Gardens,

*Located at Flushing, L. I., N. York.*

* On the Manhasset Road, half a mile east of essrs. Parsons, where all orders may be sent. To secure attention, a remittance by draft, payable in New-York, or satisfactory references, must accompany all orders, *post paid.*

Descriptive *Catalogues of Roses*, with further information, may be had on application to A. E. MILLER, at his Office, No. 4 Broad street.

## MILLER & BROWNE,

## BOOK AND JOB PRINTERS,

**At the old stand No. 4 Broad-street.**

Will be thankful to their friends and the public for any work in their line.